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EXAMINER	
PATEL, JAY P	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/904,166	SHINOMIYA, DAISUKE	
	Examiner	Art Unit	
	Jay P. Patel	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7,11,12 and 16-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7,11,12 and 16-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the remarks/amendment filed 1/31/2007.

2. Claims 7, 11-12 and 16-22 are pending.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The last limitation of claim 7 is vague. The examiner fails to see how a return message can be sent as a sub-logical link port.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 7, 11-12 and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US Patent 5953338) in view of a Hebert (US Patent 6732186 B1).

7. In regards to claim 7, Ma discloses in figure 3 various physical interfaces (310, 312, 314 and 316) to transfer voice and data information for their respective clients (clients A and B). Client A uses physical interface 310 for voice traffic and physical interface 312 for data traffic and client B uses physical interface 314 for voice traffic and physical interface 316 for data traffic (see figure 3 and column 9, lines 5-13). The various traffic types are consolidated into a single ATM interface 302 through an ATM edge switch. The controller for aggregating a plurality of physical links into a single logical link reads on the ATM edge switch. The various physical interfaces (310-316 in figure 3) read on a plurality of physical links and the ATM interface 302 reads on a single logical link.

Ma also discloses in figure 6 a view of the use of virtual path groups in the ATM interface for clients A and B with varying traffic types. Virtual path groups 601 and 602 are assigned to clients A and B respectively; specific virtual path within the virtual path group are allocated to carry various traffic types (see figure 6 and column 12, lines 4-18). The distributor for distributing a traffic to a sub-logical link reads on the virtual path group and the virtual paths themselves read on the sub-logical link into which specific ones of the physical link are aggregated to meet a specified condition of the traffic.

Ma fails to disclose aggregating a plurality of physical links over an Ethernet network or a controller returning a message establishing a sub-logical link port. Hebert discloses the above-mentioned limitations. In figure 8, Hebert discloses fast Ethernet links 810A-810D combined into a logical link (Trunk) (see figure 8 and column 9, lines 45-60). Thus, since the links 810A-810D are fast Ethernet links, the aggregation takes

place over an Ethernet network. Furthermore, the NIC 880 in figure 8 has four ports which can be used as logical ports.

Therefore it would have been obvious at the time the invention was made to modify the allocation of virtual path groups in an ATM network disclosed by Ma to carry the traffic over an Ethernet network. The advantage of the modification would be to provide the provision of virtual path groups over an Ethernet network to support combining of similar types of traffic from a source to a destination. The motivation to modify would be to combine the similar traffic types to transport over a high-speed bandwidth packet base network such as Ethernet.

8. In regards to claim 11, Ma discloses in figure 3 various physical interfaces (310, 312, 314 and 316) to transfer voice and data information for their respective clients (clients A and B). Client A uses physical interface 310 for voice traffic and physical interface 312 for data traffic and client B uses physical interface 314 for voice traffic and physical interface 316 for data traffic (see figure 3 and column 9, lines 5-13). The various traffic types are consolidated into a single ATM interface 302 through an ATM edge switch. The controller for aggregating a plurality of physical links into a single logical link reads on the ATM edge switch. The various physical interfaces (310-316 in figure 3) read on a plurality of physical links and the ATM interface 302 reads on a single logical link.

Ma also discloses in figure 6 a view of the use of virtual path groups in the ATM interface for clients A and B with varying traffic types. Virtual path groups 601 and 602 are assigned to clients A and B respectively; specific virtual path within the virtual path

group are allocated to carry various traffic types (see figure 6 and column 12, lines 4-18). The distributor for distributing a traffic to a sub-logical link reads on the virtual path group and the virtual paths themselves read on the sub-logical link into which specific ones of the physical link are aggregated to meet a specified condition of the traffic.

Furthermore, Ma also discloses that any attempt to create additional virtual channels in virtual paths will be denied (see column 12, lines 58-60) (returning an error message when the requested bandwidth is larger than the assignable bandwidth).

Ma fails to disclose aggregating a plurality of physical links over an Ethernet network or a controller returning a message establishing a sub-logical link port. Hebert discloses the above-mentioned limitations. In figure 8, Hebert discloses fast Ethernet links 810A-810D combined into a logical link (Trunk) (see figure 8 and column 9, lines 45-60). Thus, since the links 810A-810D are fast Ethernet links, the aggregation takes place over an Ethernet network. Furthermore, the NIC 880 in figure 8 has four ports which can be used as logical ports.

Therefore it would have been obvious at the time the invention was made to modify the allocation of virtual path groups in an ATM network disclosed by Ma to carry the traffic over an Ethernet network. The advantage of the modification would be to provide the provision of virtual path groups over an Ethernet network to support combining of similar types of traffic from a source to a destination. The motivation to modify would be to combine the similar traffic types to transport over a high-speed bandwidth packet base network such as Ethernet.

9. In regards to claim 12, Ma discloses in figure 3 various physical interfaces (310, 312, 314 and 316) to transfer voice and data information for their respective clients (clients A and B). Client A uses physical interface 310 for voice traffic and physical interface 312 for data traffic and client B uses physical interface 314 for voice traffic and physical interface 316 for data traffic (see figure 3 and column 9, lines 5-13). The various traffic types are consolidated into a single ATM interface 302 through an ATM edge switch. The controller for aggregating a plurality of physical links into a single logical link reads on the ATM edge switch. The various physical interfaces (310-316 in figure 3) read on a plurality of physical links and the ATM interface 302 reads on a single logical link.

Ma also discloses in figure 6 a view of the use of virtual path groups in the ATM interface for clients A and B with varying traffic types. Virtual path groups 601 and 602 are assigned to clients A and B respectively; specific virtual path within the virtual path group are allocated to carry various traffic types (see figure 6 and column 12, lines 4-18). The distributor for distributing a traffic to a sub-logical link reads on the virtual path group and the virtual paths themselves read on the sub-logical link into which specific ones of the physical link are aggregated to meet a specified condition of the traffic.

Furthermore, Ma also discloses that certain traffic needs a contract such as traffic assigned to CBR or VBR (column 12, lines 8-10) (prioritizing certain traffics and returning a subsequent assignment messages).

Ma fails to disclose aggregating a plurality of physical links over an Ethernet network or a controller returning a message establishing a sub-logical link port. Hebert

discloses the above-mentioned limitations. In figure 8, Hebert discloses fast Ethernet links 810A-810D combined into a logical link (Trunk) (see figure 8 and column 9, lines 45-60). Thus, since the links 810A-810D are fast Ethernet links, the aggregation takes place over an Ethernet network. Furthermore, the NIC 880 in figure 8 has four ports, which can be used, as logical ports.

Therefore it would have been obvious at the time the invention was made to modify the allocation of virtual path groups in an ATM network disclosed by Ma to carry the traffic over an Ethernet network. The advantage of the modification would be to provide the provision of virtual path groups over an Ethernet network to support combining of similar types of traffic from a source to a destination. The motivation to modify would be to combine the similar traffic types to transport over a high-speed bandwidth packet base network such as Ethernet.

10. In regards to claims 16-20, Ma discloses in figure 3 various physical interfaces (310, 312, 314 and 316) to transfer voice and data information for their respective clients (clients A and B). Client A uses physical interface 310 for voice traffic and physical interface 312 for data traffic and client B uses physical interface 314 for voice traffic and physical interface 316 for data traffic (see figure 3 and column 9, lines 5-13). The various traffic types are consolidated into a single ATM interface 302 through an ATM edge switch. The controller for aggregating a plurality of physical links into a single logical link reads on the ATM edge switch. The various physical interfaces (310-316 in figure 3) read on a plurality of physical links and the ATM interface 302 reads on a single logical link.

Ma also discloses in figure 6 a view of the use of virtual path groups in the ATM interface for clients A and B with varying traffic types. Virtual path groups 601 and 602 are assigned to clients A and B respectively; specific virtual path within the virtual path group are allocated to carry various traffic types (see figure 6 and column 12, lines 4-18). The distributor for distributing traffic to a sub-logical link reads on the virtual path group and the virtual paths themselves read on the sub-logical link into which specific ones of the physical link are aggregated to meet a specified condition of the traffic.

Ma also teaches that the bandwidth manager 150 changes virtual paths sizes and the virtual paths themselves according to demand (see column 13, lines 5-7) (the controller reducing the number of sub-logical links when the links are not available). Furthermore, if the requested virtual channels do fit a virtual path, the bandwidth manager 150 deletes virtual channels until the sum of the virtual channel bandwidth is below the new bandwidth (decreasing the sub-logical links when the requested amount becomes larger than a predetermined amount) (see column 13, lines 50-57).

Ma fails to disclose aggregating a plurality of physical links over an Ethernet network. In figure 8, Hebert discloses fast Ethernet links 810A-810D combined into a logical link (Trunk) (see figure 8 and column 9, lines 45-60). Thus, since the links 810A-810D are fast Ethernet links, the aggregation takes place over an Ethernet network. Furthermore, the NIC 880 in figure 8 has four ports, which can be used, as logical ports.

Therefore it would have been obvious at the time the invention was made to modify the allocation of virtual path groups in an ATM network disclosed by Ma to carry the traffic over an Ethernet network. The advantage of the modification would be to

provide the provision of virtual path groups over an Ethernet network to support combining of similar types of traffic from a source to a destination. The motivation to modify would be to combine the similar traffic types to transport over a high-speed bandwidth packet base network such as Ethernet.

11. In regards to claim 21, Ma discloses in figure 3 various physical interfaces (310, 312, 314 and 316) to transfer voice and data information for their respective clients (clients A and B). Client A uses physical interface 310 for voice traffic and physical interface 312 for data traffic and client B uses physical interface 314 for voice traffic and physical interface 316 for data traffic (see figure 3 and column 9, lines 5-13). The various traffic types are consolidated into a single ATM interface 302 through an ATM edge switch. The controller for aggregating a plurality of physical links into a single logical link reads on the ATM edge switch. The various physical interfaces (310-316 in figure 3) read on a plurality of physical links and the ATM interface 302 reads on a single logical link.

Ma also discloses in figure 6 a view of the use of virtual path groups in the ATM interface for clients A and B with varying traffic types. Virtual path groups 601 and 602 are assigned to clients A and B respectively; specific virtual path within the virtual path group are allocated to carry various traffic types (see figure 6 and column 12, lines 4-18). The distributor for distributing traffic to a sub-logical link reads on the virtual path group and the virtual paths themselves read on the sub-logical link into which specific ones of the physical link are aggregated to meet a specified condition of the traffic.

Furthermore, Ma also discloses that any attempt to create additional virtual channels in virtual paths will be denied (see column 12, lines 58-60) (returning an error message when the requested bandwidth is larger than the assignable bandwidth).

Ma fails to disclose aggregating a plurality of physical links over an Ethernet network or a controller returning a message establishing a sub-logical link port. Hebert discloses the above-mentioned limitations. In figure 8, Hebert discloses fast Ethernet links 810A-810D combined into a logical link (Trunk) (see figure 8 and column 9, lines 45-60). Thus, since the links 810A-810D are fast Ethernet links, the aggregation takes place over an Ethernet network. Furthermore, the NIC 880 in figure 8 has four ports, which can be used, as logical ports.

Therefore it would have been obvious at the time the invention was made to modify the allocation of virtual path groups in an ATM network disclosed by Ma to carry the traffic over an Ethernet network. The advantage of the modification would be to provide the provision of virtual path groups over an Ethernet network to support combining of similar types of traffic from a source to a destination. The motivation to modify would be to combine the similar traffic types to transport over a high-speed bandwidth packet base network such as Ethernet.

12. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US Patent 5953338) and a Hebert (US Patent 6732186 B1) and applied to claim 21 above, further in view of Kruobe et al. (US Patent 5896402).

In regards to claim 22, Ma and Hebert teach all the limitations of parent claim 21 as stated above. Neither Ma nor Hebert teach, waiting for a period of standby time before retransmitting a message.

Kurobe teaches the above-mentioned limitation in figure 1. At the transmit side an error occurs in transmission of frame 3. The receiver waits a period of retransmission wait time before sending a retransmit request for frame 3.

Therefore it would have been obvious at the time the invention was made to include the frame retransmission method taught by Kruobe in the allocation of virtual path groups in an ATM network disclosed by Ma and carrying the traffic over an Ethernet network as taught by Hebert. The proper motivation to do so would be to prevent unnecessary retransmission in the event that a frame or a packet isn't lost but rather delayed.

Conclusion

13. Claim 22 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Applicant's remarks filed 1/31/2007 have been considered but fail to put the application in the condition of allowance and therefore, a new ground(s) of rejection is presented above. As a result, this office action is made non-final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay P. Patel whose telephone number is (571) 272-3086. The examiner can normally be reached on M-F 9:00 am - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JPP 5/14/07
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